1.10

Energy in ecosystems

Review work to begin class:

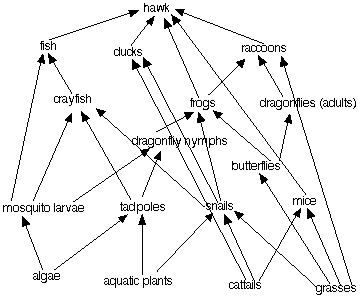
|  |  |  |  |
| --- | --- | --- | --- |
| Habitat | Pond | Ecotone | Field |
| Organisms Present | algae  aquatic plants  crayfish  dragonflies  dragonfly nymphs  duck  minnows  mosquito larvae  tadpoles  zooplankton | aquatic plants  butterflies  cattails  dragonflies  ducks  earthworms  frogs  grasses  hawks  mice  snails | Butterflies  grasses  larks  mice  raccoons  toads  voles |

Use the information from the chart to construct a three-dimensional model (food web and chain) or pyramid with names and diagrams. Use all of the above the terms.

Find page numbers for the remaining Vocabulary terms

1. Heterotroph
2. Niche
3. Omnivore
4. Pest
5. Photosynthesis
6. Population
7. Primary consumer
8. Producer
9. Secondary consumer
10. Thermodynamics; 1st and 2nd Law
11. Threatened
12. Trophic level
13. Vulnerable

Example answer for food web



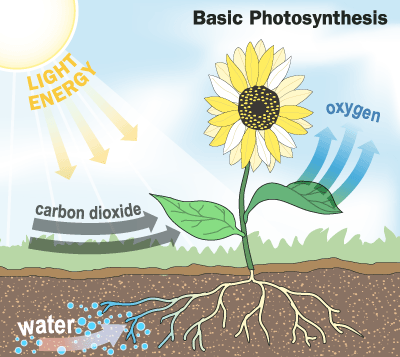
Notes:

All energy for all ecosystems is the sun.

1. Provides energy for photosynthesis, plants to maintain their lives and create food for all living organisms. Energy for all producers in food chains.

Converts solar energy to chemical energy and stores it in the form of carbohydrates.

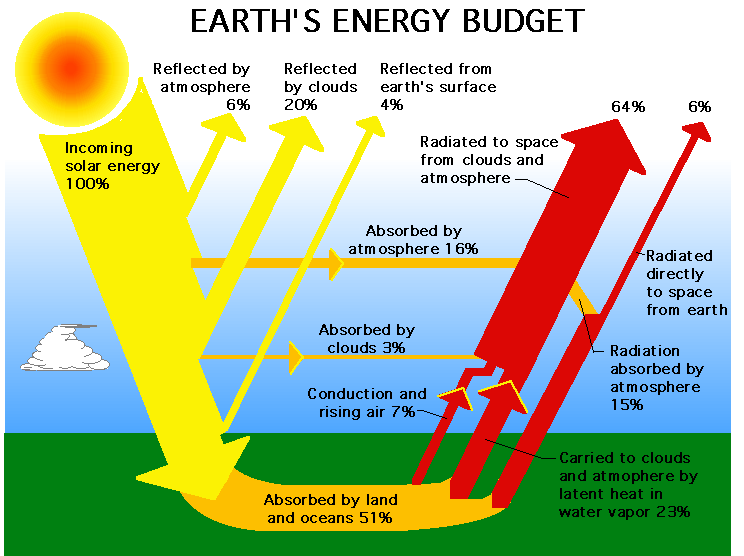
Carbon dioxide + water + sunlight = sugar + oxygen



1. Energy and warmth to evaporate water form oceans to create weather patterns, rain and snow

<http://www.nhc.noaa.gov/>





Sunlight

1. Harmful high energy cosmic, gamma rays, X-rays and UV rays are reflected or absorbed by chemicals in the atmosphere.
2. Percentage reflected by clouds
3. Heats earths surface
4. Small percentage generates wind
5. Extremely small percentage used for Photosynthesis
6. Most is sent back to atmosphere in form of heat and radiation

Create your own chart or pie graph that represents the distribution of sunlight that penetrates the atmosphere.

Albedo effect is related to how much sunlight is reflected or absorbed. It is the measurement of the percentage of light that an object reflects.

High albedo - Snow, sand deforested areas - high reflection, little absorption

Low albedo - forests, crops, water - low reflection, greater absorption

Be able to answer the Understanding Concepts page 33